

WEST**End of Result Set**☐ **Generate Collection** **Print**

L1: Entry 2 of 2

File: DWPI

Jan 2, 1998

DERWENT-ACC-NO: 1998-053620

DERWENT-WEEK: 199806

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TITLE: Tactile sensor matrix for vehicles - uses multiplexers to poll pressure distribution on sensor array fitted to seats, also brake pedals, steering wheels

INVENTOR: KIERSTEN, P; SCHMID, E ; SCHULER, T

PATENT-ASSIGNEE:

ASSIGNEE

CODE

ITT AUTOMOTIVE EURO GMBH

INTT

PRIORITY-DATA: 1996DE-1025730 (June 27, 1996)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
<u>DE 19625730 A1</u>	January 2, 1998		007	G01L001/20

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
DE 19625730A1	June 27, 1996	1996DE-1025730	

INT-CL (IPC): B60 N 2/02; B60 R 16/02; B60 R 21/32; G01 L 1/20; G01 L 5/16; G01 L 5/22; G01 P 15/12

ABSTRACTED-PUB-NO: DE 19625730A

BASIC-ABSTRACT:

The sensor matrix consists of parallel lines of pressure sensors connected in parallel. The pressure-dependent sensor voltages are polled sequentially by multiplexers connected to a computer via an A/D converter. The sensor matrix (M) fitted to a vehicle seat is connected to processing electronics (A) and linked to a computer by a fibre-optics cable.

The pressure distribution on the seat is used to control inflation of an airbag in a crash situation. A sensor matrix may be fitted to a safety belt, the brake pedal or the steering wheel for similar safety purposes.

ADVANTAGE - Prevents unnecessary inflation of airbag on unoccupied seat. Improves safety of seat belts by sensing belt tension.

CHOSEN-DRAWING: Dwg.4/4

TITLE-TERMS: TACTILE SENSE MATRIX VEHICLE MULTIPLEX POLL PRESSURE DISTRIBUTE SENSE ARRAY FIT SEAT BRAKE PEDAL STEER WHEEL

DERWENT-CLASS: Q14 Q17 S02 X22

EPI-CODES: S02-F01C; S02-F03B; S02-F03X; S02-G03; X22-X06D;

WEST

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L1: Entry 1 of 2

File: EPAB

Jan 2, 1998

PUB-NO: DE019625730A1

DOCUMENT-IDENTIFIER: DE 19625730 A1

TITLE: Tactile sensor matrix for vehicles

PUBN-DATE: January 2, 1998

INVENTOR-INFORMATION:

NAME

COUNTRY

SCHMID, ECKHARDT

DE

KIERSTEN, PETER DR

DE

SCHULER, THOMAS

DE

ASSIGNEE-INFORMATION:

NAME

COUNTRY

TEVES GMBH ALFRED

DE

APPL-NO: DE19625730

APPL-DATE: June 27, 1996

PRIORITY-DATA: DE19625730A (June 27, 1996)

INT-CL (IPC): G01 L 1/20; G01 L 5/16; G01 P 15/12; G01 L 5/22; B60 R 21/32; B60 R 16/02; B60 N 2/02

EUR-CL (EPC): G01L001/20; B60N002/02, B60R016/02 , B60R021/01 , B60R022/12 , B60R022/48

ABSTRACT:

CHG DATE=19990617 STATUS=O>The sensor matrix consists of parallel lines of pressure sensors connected in parallel. The pressure-dependent sensor voltages are polled sequentially by multiplexers connected to a computer via an A/D converter. The sensor matrix (M) fitted to a vehicle seat is connected to processing electronics (A) and linked to a computer by a fibre-optics cable. The pressure distribution on the seat is used to control inflation of an airbag in a crash situation. A sensor matrix may be fitted to a safety belt, the brake pedal or the steering wheel for similar safety purposes.

WEST Search History

DATE: Wednesday, July 09, 2003

<u>Set Name</u>	<u>Query</u>	<u>Hit Count</u>	<u>Set Name</u>
side by side			result set
	<i>DB=USPT,PGPB,JPAB,EPAB,DWPI,TDBD; THES=ASSIGNEE; PLUR=YES; OP=AND</i>		
L1	(electroly\$10 or electrochem\$10) near5 furan	136	L1

END OF SEARCH HISTORY

=> d all 170

L2 ANSWER 170 OF 186 CAPLUS COPYRIGHT 2003 ACS

AN 1961:13335 CAPLUS

DN 55:13335

OREF 55:2597e-h

TI **Furan** compounds. XII. **Electrolytic** methoxylation of **furan** substances

AU Ponomarev, A. A.; Markushina, I. A.

CS State Univ., Saratov

SO Zhurnal Obshchei Khimii (1960), 30, 976-81

CODEN: ZOKHA4; ISSN: 0044-460X

DT Journal

LA Unavailable

CC 10G (Organic Chemistry: Heterocyclic Compounds)

AB cf. CA 49, 5422g; 54, 24621i. Electrolysis of 49.9 g.

1-(2-furyl)-3-butyl

acetate and 5 g. NH₄Br in 250 ml. MeOH at -12.degree. 10 hrs. at 6-30 v. and 3.5-1.8 amp. in an app. the diagram of which is shown (a cylindrical electrolysis vessel with Ni cathode and C anode) gave 68% (current yield) 2,5-dimethoxy-2,5-dihydro-2-furyl-3-butyl acetate, b₇ 133-4.degree., d₂₀ 1.0743, n_{20D} 1.4526. Similarly were prep'd. from appropriate furan derivs.: 2,5-dimethoxy-2,5-dihydrofuran, 78%, b. 158-60.degree., n_{25D} 1.4326; 67% 2-methyl-2,5-dimethoxy-2,5-dihydrofuran, b. 158-60.degree., n_{20D} 1.4289; 68.5% 2,5-dimethoxy-2-acetoxymethyl-2,5-dihydrofuran, b₁₂ 118-20.degree., 1.4458; 2,5-dimethoxy-2-(3-acetoxypentyl)-2,5-dihydrofuran, 46.7%, b₁ 105-5.5.degree., d₂₀ 1.105, n_{20D} 1.4578; 51.5% 2,5-dimethoxy-2-(2-acetoxyethyl)-2,5-dihydrofuran, b₂ 103-4.degree., 1.077, 1.4568; 55% 2,5-dimethoxy-2-(2-hydroxyethylaminomethyl)-2,5-dihydrofuran, b_{1.5} 120-2.degree., 1.134, 1.4750; 51% 2,5-dimethoxy-2-(3-methylpentyl)-2,5-dihydrofuran, b₅ 99-101.5.degree., 0.9676, 1.4461. **Hydrogenation** over Raney Ni at 50-120 atm. and 20-40.degree. gave the following: 84.4% 2,5-dimethoxy-2-(3-acetoxybutyl)tetrahydrofuran, b₆ 142-3.degree., 1.0472, 1.4420; 67.5% 2,5-dimethoxy-2-(2-acetoxyethyl)tetrahydrofuran, b₄ 124.5-6.5.degree., 1.040, 1.4432; 86.6% 2,5-dimethoxy-2-(2-hydroxyethylaminomethyl)tetrahydrofuran, b_{1.5} 124.5-25.degree., 1.115, 1.4630.

IT Methoxy group

(electrolytic introduction into furans)

IT 110-00-9, Furan

(derivs.)

IT 4070-75-1, 2-Butene-1,4-dione, 1,4-diphenyl-

(derivs., pyrolysis of)

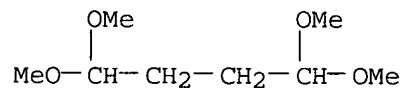
IT 332-77-4, Furan, 2,5-dihydro-2,5-dimethoxy- 22414-24-0, Furan,
2,5-dihydro-2,5-dimethoxy-2-methyl- 41991-02-0, Furfuryl alcohol,
2,5-dihydro-2,5-dimethoxy-, acetate 85806-26-4, 2-Furanethanol,
2,5-dihydro-2,5-dimethoxy-, acetate 90727-31-4, Ethanol,
2-[(tetrahydro-2,5-dimethoxyfurfuryl)amino]- 90950-87-1, Ethanol,
2-[(2,5-dihydro-2,5-dimethoxyfurfuryl)amino]- 91966-97-1,
2-Furanpropanol, 2,5-dihydro-2,5-dimethoxy-, acetate 92038-02-3, Furan,
2,5-dihydro-2,5-dimethoxy-2-(3-methylpentyl)- 92038-77-2,
2-Furanpropanol, tetrahydro-2,5-dimethoxy-.alpha.-methyl-, acetate
93044-00-9, 2-Furanpropanol, 2,5-dihydro-2,5-dimethoxy-.alpha.-methyl-,
acetate 99174-63-7, 2-Furanethanol, tetrahydro-2,5-dimethoxy-, acetate
(prepn. of)

=>

=> s 1,1,4,4-tetramethoxybutane/cn
L1 1 1,1,4,4-TETRAMETHOXYBUTANE/CN

=> d

L1 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2003 ACS
RN 6922-39-0 REGISTRY
CN Butane, 1,1,4,4-tetramethoxy- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Succinaldehyde, bis(dimethyl acetal) (6CI, 7CI, 8CI)
OTHER NAMES:
CN **1,1,4,4-Tetramethoxybutane**
CN Succinaldehyde tetramethyl acetal
CN Succinaldehyde tetramethyl diacetal
FS 3D CONCORD
MF C8 H18 O4
LC STN Files: BEILSTEIN*, CA, CAOLD, CAPLUS, CASREACT, CHEMCATS, CSCHEM,
IFICDB, IFIPAT, IFIUDB, SPECINFO, TOXCENTER, USPATFULL
(*File contains numerically searchable property data)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

41 REFERENCES IN FILE CA (1957 TO DATE)
41 REFERENCES IN FILE CAPLUS (1957 TO DATE)
2 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

=>

=> d his

(FILE 'HOME' ENTERED AT 17:26:38 ON 09 JUL 2003)

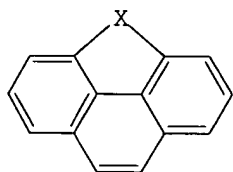
FILE 'CAPLUS' ENTERED AT 17:26:57 ON 09 JUL 2003

L1 836 S ELECTRO? (5A) FURAN
L2 186 S L1 AND HYDRO?

=>

=> d all 107

L2 ANSWER 107 OF 186 CAPLUS COPYRIGHT 2003 ACS
AN 1980:446302 CAPLUS
DN 93:46302
TI Phenanthro[4,5-bcd]furan derivatives. VI. Some
electrophilic substitution reactions and **hydrogenation**
of 4H-cyclopenta[def]phenanthrene, phenanthro[4,5-bcd]furan, and
4H-benzo[def]carbazole
AU Horaguchi, Takaaki; Yamazaki, Reiko; Abe, Teishiro
CS Fac. Sci., Niigata Univ., Niigata, 950-21, Japan
SO Bulletin of the Chemical Society of Japan (1980), 53(2), 494-7
CODEN: BCSJA8; ISSN: 0009-2673
DT Journal
LA English
CC 27-10 (Heterocyclic Compounds (One Hetero Atom))
GI



AB Some electrophilic substitution reactions and **hydrogenation** of
the title compounds. (I; X = CH₂, O, NH) were investigated. The bromination
of I (X = CH₂, O) with Br gave the corresponding 8--bromo derivs. The
bromination of I (X = NH), however, gave the 1,3,5,7-tetrabromo deriv. as
the sole product. The benzylation of I (X = CH₂, O) afforded the
corresponding 1-benzoyl derivs., but in the case of I (X = O), the
1,7-dibenzoyl deriv. was obtained together with the 4-benzoyl deriv.
Ortho- and para-orientation of the N atom in I (X = NH) is much stronger
than that of the methylene group or the O atom in I (X = CH₂, O).
Hydrogenation of I (X = CH₂, O, NH) over Pd-C gave the
corresponding 8,9-dihydro derivs. The redn. of I (X = CH₂, O) with
Na-EtOHh gave the 8,9-dihydro derivs. The redn. of I (X = O), however,
gave the 3,3a,8,9,9a,9b-hexahydro deriv. The facile **hydrogenation**
of the C-C double bonds at the 8,9-positions in I (X = CH₂, O, NH) is due
to strain in the fused ring system.
ST phenanthro[4,5-bcd]furan electrophilic substitution; cyclopentaphenanthrene
electrophilic substitution; benzocarbazole electrophilic substitution;
electrophilic substitution phenanthro[4,5-bcd]furan
IT Substitution reaction, electrophilic
(of cyclopentaphenanthrene, phenanthro[4,5-bcd]furan, and benzocarbazole)
IT 85-01-8, reactions 203-64-5 203-65-6 203-67-8
RL: RCT (Reactant); RACT (Reactant or reagent)
(electrophilic substitution reactions of)
IT 573-17-1P 5691-00-9P 5783-21-1P 6453-93-6P 27410-55-5P
65612-93-3P 65612-98-8P 65612-99-9P 65613-00-5P 70659-38-0P
70659-40-4P 74234-53-0P 74234-54-1P 74234-55-2P 74234-56-3P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

=>

=> d all 71

L2 ANSWER 71 OF 186 CAPLUS COPYRIGHT 2003 ACS
AN 1991:617139 CAPLUS
DN 115:217139
TI 4,7-Dioxooctanoic acid from the acid catalyzed reaction of
(E)-4-(2-furyl)but-3-enone. **Electrochemical**
hydrogenation of some **furan** derivatives
AU Abeysekera, Ajita M.; Amaratunge, Shiyamalie; Grimshaw, James; Jayaweera,
Nihal; Senanayake, Gamini
CS Dep. Chem., Univ. Sri Jayewardenepura, Nugegoda, Sri Lanka
SO Journal of the Chemical Society, Perkin Transactions 1: Organic and
Bio-Organic Chemistry (1972-1999) (1991), (8), 2021-3
CODEN: JCPRB4; ISSN: 0300-922X
DT Journal
LA English
CC 72-2 (Electrochemistry)
Section cross-reference(s): 22, 23, 27
AB A two phase acidic reaction medium has been developed for the conversion
of (E)-4-(2-furyl)but-3-enone into 4,7-dioxooctanoic acid in consistent
yields of 50% with concomitant formation of 15% polymer. The
corresponding ring opening of 1-(2-furyl)-5-methylhex-1-en-3-one proceeds
in homogeneous acid soln. in very high yield without polymer formation.
The two furylalkenones can be reduced electrochem. to the corresponding
furylalkylketones in good yields at a lead cathode in the presence of
sodium **hydrogen** carbonate.
ST furylbutenone ring cleavage dioxooctanoic acid polymer; acid catalyst
furylmethylhexenone ring cleavage; furylalkenone redn electrochem
furylalkylketone formation
IT Reduction, electrochemical
(of furylalkenones)
IT Polymerization
(electrochem., in electrochem. ring cleavage of furylbutenone)
IT Ring cleavage
(electrochem., of furylbutenone, dioxooctanoic acid from)
IT 7439-92-1, Lead, uses and miscellaneous
RL: USES (Uses)
(cathode, for electrochem. redn. of furyl derivs.)
IT 64-19-7, Acetic acid, uses and miscellaneous 67-56-1, Methanol, uses
and
miscellaneous 110-82-7, Cyclohexane, uses and miscellaneous
7647-01-0,
Hydrochloric acid, uses and miscellaneous
RL: USES (Uses)
(electrochem. conversion of furylbutenone in soln. contg.)
IT 20577-46-2, 4,7-Dioxooctanoic acid
RL: PROC (Process)
(electrochem. formation of, in cleavage of furylbutenone)
IT 21865-85-0P
RL: PREP (Preparation)
(electrochem. prepn. of)
IT 144-55-8, Carbonic acid monosodium salt, uses and miscellaneous
RL: USES (Uses)
(electrochem. redn. of furyl derivs. on lead cathode in presence of)
IT 41438-24-8
RL: RCT (Reactant); RACT (Reactant or reagent)
(electrochem. ring cleavage of, dioxooctanoic acid formation in)
IT 4196-96-7P, 1-(2-Furyl)-5-methylhex-1-en-3-one
RL: RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(prepn. and electrochem. redn. of)
IT 100053-48-3P, 9-Methyl-4,7-dioxodecanoic acid
RL: PREP (Preparation)
(prepn. of, electrochem.)
IT 699-17-2P
RL: PREP (Preparation)
(prepn. of, electrochem.,)
IT 137031-68-6P 137031-69-7P
RL: PREP (Preparation)
(prepn. of, from methyldioxodecanoic acid)
IT 108-10-1, 4-Methylpentan-2-one
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with furaldehyde, furylmethylhexenone prepn. in)
IT 98-01-1, Furaldehyde, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with methylpentanone, furylmethylhexenone formation in)

=>

=> d all 82

L2 ANSWER 82 OF 186 CAPLUS COPYRIGHT 2003 ACS
AN 1990:167808 CAPLUS
DN 112:167808
TI Laminar radial flow electrochemical reactors. III. Electroorganic synthesis
AU Thomas, F. B.; Ramachandran, P. A.; Dudukovic, M. P.; Jansson, R. E. W.
CS Hycal Energy Res. Lab., Calgary, AB, T2E 6T6, Can.
SO Journal of Applied Electrochemistry (1989), 19(6), 856-67
CODEN: JAELEBJ; ISSN: 0021-891X
DT Journal
LA English
CC 72-3 (Electrochemistry)
Section cross-reference(s): 21, 48, 65
AB The performance and design were investigated of 3 laminar radial flow electrochem. cells (the capillary gap cell, stationary disks; the rotating electrolyzer, co-rotational disks; the pump cell, 1 disk rotating and the other stationary). Modeling of a competing electrosynthesis pathway is described, e.g. the methoxylation of furan. The developed model incorporates convective, diffusive, and migratory influences with 3 homogeneous and 2 electrode reactions. Two sizes of reactors are considered, and the performance of the different reactor types was analyzed as a function of size. The superiority of the rotational cells is illustrated for this reaction scheme, compared to both the capillary gap cell and a parallel-plate reactor. Scale-up criteria are scrutinized, and 2 approaches to laminar radial flow reactor scale-up are investigated.
One approach shows that the Taylor no., residence time, IR drop, and rotational Reynolds no. must all be accounted for even with a fairly simple electrosynthesis pathway. A quant. evaluation of this scale-up procedure is included.
ST laminar radial flow electrolytic cell; **electrosynthesis** cell
furan methoxylation
IT Reynolds number
(**electrochem.** methoxylation of **furan** in laminar radial flow **electrochem.** cell in relation to)
IT Mass transfer
(in **electrochem.** methoxylation of **furan**)
IT **Electrolytic** cells
(laminar, radial, methoxylation of **furan** in)
IT Dimensionless number
(Taylor, **electrochem.** methoxylation of **furan** in laminar radial flow **electrochem.** cell in relation to)
IT Diffusion
(convective, in methoxylation of furan)
IT Synthesis
(**electrochem.**, in laminar radial flow **electrochem.** cell)
IT Methoxylation
(**electrochem.**, of **furan**, in laminar radial flow **electrochem.** cell)
IT Flow
(**hydrodynamic**, in **electrochem.** methoxylation of **furan** in laminar radial **electrochem.** cell)
IT 125131-90-0P
RL: FORM (Formation, nonpreparative); PREP (Preparation)
(formation of, as byproduct, in methoxylation of **furan** in

laminar radial flow **electrochem.** cell)

IT 1333-74-0P, **Hydrogen**, preparation
RL: FORM (Formation, nonpreparative); PREP (Preparation)
(formation of, from cathode in **electrochem.** methoxylation of
furan in laminar radial flow **electrochem.** cells)

IT 332-77-4P
RL: FORM (Formation, nonpreparative); PREP (Preparation)
(formation of, in **electrochem.** methoxylation of **furan**
in laminar radial flow **electrochem.** cell)

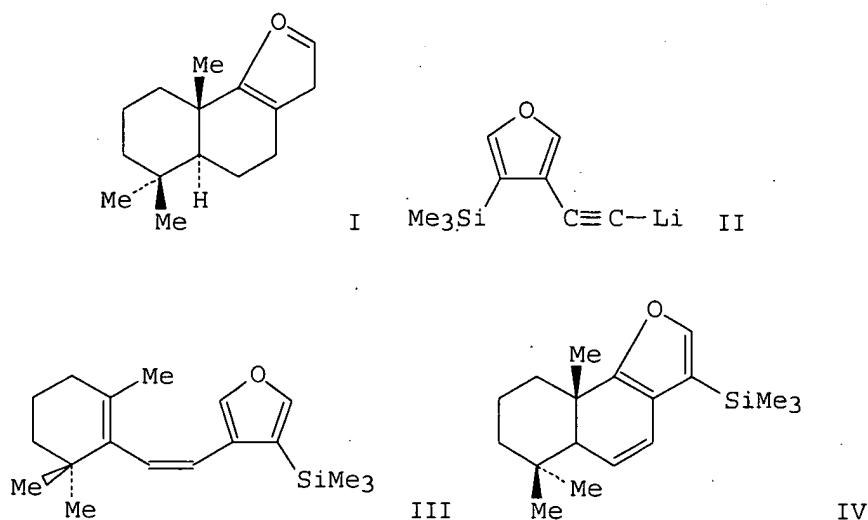
IT 7726-95-6, Bromine, uses and miscellaneous 14798-03-9, Ammonium ion,
uses and miscellaneous 24959-67-9, Bromide, uses and miscellaneous
RL: USES (Uses)
(in **electrochem.** methoxylation of **furan** in laminar
radial flow **electrochem.** cells)

IT 110-00-9, **Furan**
RL: RCT (Reactant); RACT (Reactant or reagent)
(methoxylation of, **electrochem.**, in laminar radial flow
electrochem. cell)

=>

=> d all 87

L2 ANSWER 87 OF 186 CAPLUS COPYRIGHT 2003 ACS
AN 1988:529327 CAPLUS
DN 109:129327
TI Triene cyclizations. Total synthesis of pallescensin A
AU Liotta, Dennis; Ott, Walter
CS Dep. Chem., Emory Univ., Atlanta, GA, 30322, USA
SO Synthetic Communications (1987), 17(14), 1655-65
CODEN: SYNCAV; ISSN: 0039-7911
DT Journal
LA English
CC 30-15 (Terpenes and Terpenoids)
OS CASREACT 109:129327
GI



AB Pallescensin A (I) was prepd. from 2,2,6-trimethylcyclohexanone and acetylide II via a 6- π , thermal **electrocyclization** of **furan** III to furooctalin IV as the key step.

ST pallescensin A total synthesis; acetylide silylfuryl transformation; cyclohexanone trimethyl transformation; furanobicyclodecene prepn transformation; cyclohexene furylethenyl prepn transformation

IT 116487-12-8
RL: RCT (Reactant); RACT (Reactant or reagent)
(lithiation and condensation with trimethylcyclohexanone)

IT 2408-37-9P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and condensation of, with xyllylfurylacetylide)

IT 116487-13-9P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and dehydration of)

IT 116487-17-3P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and desilylation of)

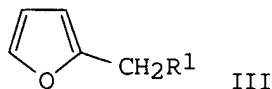
IT 116487-18-4P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (prepn. and epimerization of)
 IT 116487-16-2P 116487-20-8P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (prepn. and **hydrogenation** of)
 IT 116487-14-0P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (prepn. and partial **hydrogenation** of)
 IT 116487-15-1P 116487-19-5P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (prepn. and thermal electrocyclization of)
 IT 73210-04-5P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (total synthesis of)
 IT 766-42-7 766-43-8
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (C-methylation of)

=>

> d all 98

L2 ANSWER 98 OF 186 CAPLUS COPYRIGHT 2003 ACS
AN 1982:509529 CAPLUS
DN 97:109529
TI Convenient syntheses of 4,4-dimethoxy esters and ketones
AU Iwasaki, Tameo; Nishitani, Takashi; Horikawa, Hiroshi; Inoue, Ichizo
CS Dep. Synth. Chem., Tanabe Seiyaku Co. Ltd., Osaka, 532, Japan
SO Journal of Organic Chemistry (1982), 47(19), 3799-802
CODEN: JOCEAH; ISSN: 0022-3263
DT Journal
LA English
CC 23-17 (Aliphatic Compounds)
Section cross-reference(s): 27, 72
OS CASREACT 97:109529
GI



AB (MeO)2CHCH2CHRCO2Me (I, R = H, Me) were prepd. in good yields by electrolysis of 2-furoic acid and 3-methyl-2-furoic acid, resp., in MeOH contg. Et3N and NH4Br. In these electrode reactions, both the anodic and cathodic processes are involved. (MeO)2CHCH2CH2COCH2R1 (II, R1 = AcO, H, AcNH) were also prepd. from 2-substituted furans III using anodic oxidn. as one of the key steps.

ST furoic acid electrolysis; butanoate dimethoxy; ester dimethoxy; acetoxymethylfuran oxidn electrochem; **furan** methyl oxidn **electrochem**; pentanone dimethoxy; ketone dimethoxy

IT Esters, preparation
Ketones, preparation
RL: SPN (Synthetic preparation); PREP (Preparation)
(dimethoxy, prepn. of, by **electrochem.** oxidn. of **furan**)

IT Oxidation, **electrochemical**
(of **furan**)

IT 534-22-5 623-17-6 5663-62-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(electrochem. oxidn. of)

IT 88-14-2 6947-94-0
RL: RCT (Reactant); RACT (Reactant or reagent)
(electrolysis of)

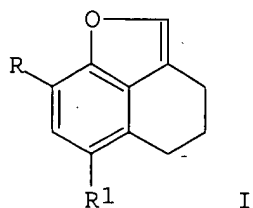
IT 38588-84-0P 38588-85-1P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and **hydrogenation** of)

IT 82614-40-2P 82614-41-3P 82614-42-4P 82614-45-7P 82614-46-8P
82614-47-9P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and **hydrolysis** of)

IT 3209-78-7P 4220-66-0P 25252-24-8P 82614-43-5P 82614-44-6P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

=> d all 117

L2 ANSWER 117 OF 186 CAPLUS COPYRIGHT 2003 ACS
AN 1978:546688 CAPLUS
DN 89:146688
TI **Furan** derivatives. III. Some **electrophilic**
substitution reactions and **hydrogenation** of 4,5-dihydro-3H-
naphtho[1,8-bc]furans
AU Horaguchi, Takaaki; Abe, Teishiro
CS Fac. Sci., Niigata Univ., Niigata, Japan
SO Bulletin of the Chemical Society of Japan (1978), 51(7), 2068-71
CODEN: BCSJA8; ISSN: 0009-2673
DT Journal
LA English
CC 27-7 (Heterocyclic Compounds (One Hetero Atom))
GI

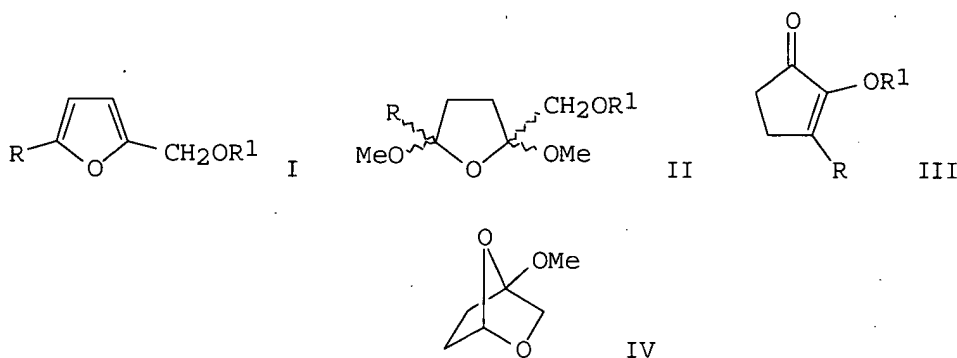


AB 4,5-Dihydro-3H-naphtho[1,8-bc]furans I (R = H, R1 = H, MeO; R = MeO, R1 = H, Cl) reacted with a variety of electrophilic reagents to give the corresponding 2-substituted 4,5-dihydro-3H-naphtho[1,8-bc]furans.
Hydrogenation of I gave the corresponding 2a,3,4,k-tetrahydro-2H-naphtho[1,8-bc]furans. 2H-naphtho[1,8-bc]furans which were prepd. from I were gradually converted to the 8-hydroxynaphthalene -1-carbaldehydes in air.
ST naphthofuran electrophilic substitution **hydrogenation**
IT **Hydrogenation**
Substitution reaction, electrophilic
(of dihydronaphthofurans)
IT 5656-61-1 57044-16-3 57044-17-4 57044-18-5
RL: RCT (Reactant); RACT (Reactant or reagent)
(electrophilic substitution reactions and **hydrogenation** of)
IT 209-06-3P 67727-02-0P 67727-03-1P 67727-04-2P 67727-05-3P
67727-06-4P 67727-07-5P 67727-08-6P 67727-09-7P 67727-10-0P
67727-11-1P 67727-12-2P 67727-13-3P 67727-14-4P 67727-15-5P
67727-16-6P 67727-17-7P 67727-18-8P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

=>

=> d all 120

L2 ANSWER 120 OF 186 CAPLUS COPYRIGHT 2003 ACS
AN 1978:169633 CAPLUS
DN 88:169633
TI Easy synthesis of 2-**hydroxy**-3-methylcyclopent-2-enone
AU Shono, Tatsuya; Matsumura, Yoshihiro; Hamaguchi, Hiroshi
CS Dep. Synth. Chem., Kyoto Univ., Kyoto, Japan
SO Journal of the Chemical Society, Chemical Communications (1977), (20),
712-13
CODEN: JCCCAT; ISSN: 0022-4936
DT Journal
LA English
CC 24-4 (Alicyclic Compounds)
Section cross-reference(s): 27
GI



AB **Electrochem.** oxidn. of the **furan** deriv. I (R = Me, R1
= H) in MeOH followed by **hydrogenation** over Raney Ni of the
resulting stereoisomeric mixt. of the dimethoxy compds. gave >90% THF
an deriv. II. A soln. of II (R = Me, R1 = H) in H2O was then treated with
acidic ion-exchange resin for 0.25 h at room temp., followed by addn. of
Na2CO3 and heating to reflux for 3 h. Extn. of the reaction mixt. with
CHCl3 followed by solvent removal gave 70-80% title compd. (III; R = Me,
R1 = H). Formation of MeCO(CH2)2COCH2OH as an intermediate was confirmed
with by its isolation and cyclization to III (R = Me, R1 = H) by treatment
Na2CO3. Similarly, I (R = R1 = Me) gave 73% III whereas I (R = R1 = H)
gave II which on treatment with acid gave the bicyclic compd. IV.
ST cyclopentenone **hydroxy** methyl; **hydroxymethylcyclopentanone***
** ; **furfuranol** methyl **electrochem** oxidn
IT 98-00-0 3857-25-8 18091-23-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(electrochem. oxidn. of)
IT 65313-46-4P 65313-48-6P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(prepn. and cyclization of)
IT 66302-69-0P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT

(Reactant or reagent)
(prepn. and cyclocondensation reaction of)
IT 66260-15-9P 66260-18-2P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(prepn. and ***hydrogenation of)
IT 66260-16-0P 66302-67-8P 66302-68-9P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(prepn. and ring cleavage of)
IT 80-71-7P 14189-85-6P 66260-17-1P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

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=> d all 133

L2 ANSWER 133 OF 186 CAPLUS COPYRIGHT 2003 ACS
AN 1972:448368 CAPLUS
DN 77:48368
TI Furans. XLIX. Electrolytic methoxylation of furans and synthesis of substituted pyridazines
AU Novitskii, K. Yu.; Sadovaya, N. K.; Baskina, A. B.
CS Mosk. Gos. Univ. im. Lomonosova, Moscow, USSR
SO Khimiya Geterotsiklicheskikh Soedinenii, Sbornik (1970), No. 2 (Kislordsoderzhashchie Geterotsikly), 57-62
CODEN: KHGSA7; ISSN: 0454-8825
DT Journal
LA Russian
CC 28-16 (Heterocyclic Compounds (More Than One Hetero Atom))
GI For diagram(s), see printed CA Issue.
AB Electrolytic methoxylation of substituted furans at -10.degree. with NH4Br
or H2SO4 as electrolytes gave the resp. 2,5-dimethoxy-2,5-dihydrofurans I (R1, R2, and % yield given): CH2OH, CH2OH, 81; CH2OAc, CH2OAc, 70; H, CH2CO2Me, 56; Et, CH2NMe2, 50. **Hydrogenation** of I (R1 = H, R2 = CH2CO2Me) over Raney Ni at room temp. and 100 atm gave 84% II. A mixt.
of I and 1 N HCl or 1% AcOH heated on a water bath until dark-red and then treated with 85% hydrazine hydrate at -5.degree. gave pyridazines III (R1, R2, and % yield given): CH2OH, OH, 70; H, CO2Me, 6; Et, NMe2, 37; H, NMe2, 30; Me, NMe2, 30; H, CN, 42; H, OH, 40. III (R1 = H, R2 = CONHNH2) was prepd. by heating a soln. of I (R1 = H, R2 = CO2Me) in HCl with hydrazine hydrate 40 min on a water bath. Uv spectra of III are given.
ST **furans** methoxylation **electrolytic**; pyridazine
IT Methoxylation
(of furans)
IT Furan, derivs.
RL: RCT (Reactant); RACT (Reactant or reagent)
(methoxylation of)
IT 27349-74-2P 27349-80-0P 37444-20-5P 37444-21-6P 37444-26-1P
37444-27-2P 37444-28-3P 37444-29-4P 37444-30-7P 37444-31-8P
37444-32-9P 37444-33-0P 37444-34-1P 37444-35-2P 37444-36-3P
37444-37-4P 37444-38-5P 37444-39-6P 37444-40-9P 37444-41-0P
37444-42-1P 37444-44-3P 37444-45-4P 37444-46-5P 37444-47-6P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

=>

=> d all 166

L2 ANSWER 166 OF 186 CAPLUS COPYRIGHT 2003 ACS

AN 1962:7072 CAPLUS

DN 56:7072

OREF 56:1287i,1288a-d

TI Electrolytic alkoxylation of furans

AU Ponomarev, A. A.; Markushina, I. A.

SO Uchenye Zapiski Saratov. Univ. (1959), 71, 135-42

From: Referat. Zhur., Khim. 1961, Abstr. No. 3Zh128.

DT Journal

LA Unavailable

CC 22 (Electrochemistry)

AB The 2-substituted furans I-VIII, in which the substituent is
CH₂CH₂CH(Me)OAc, CH₂CH₂Ac, CH₂NHCH₂CH₂OH, CH₂CH₂CH(Me)Et, CH₂CH₂CH₂OAc,

H,

Me, and CH₂OAc, resp., were electrolytically 2,5-dimethoxylated by the method of Clauson-Kaas, et al. (CA 47, 7479f) to give IX-XVI. IX-XI were **hydrogenated** to the corresponding tetrahydrofuran derivs.

(XVII-XIX). Solns. of I-VIII in 230-50 ml. MeOH contg. 5 g. NH₄Br were cooled to --12.degree. (--16.degree.) and electrolyzed (C anode, Ni cathode) for 10 hrs.; a soln. of 1.2 g. Na in 30 ml. MeOH was added, the mixts. were evapd., and IX-XVI were extd. with Et₂O (starting material, amt. in moles, b.p. in .degree.C. (mm.), n₂₀D, current strength in amp., potential in v. amt. of electricity in amp.-hrs., product obtained, yield in %, current efficiency in %, b.p. in .degree.C. (mm.), n₂₀D, d₂₀ given): I, 0.3, 97-8 (10), 1.4572, 1.8-3.5, 6-30, --, IX, 67.1, --, 133 4(7), 1.4526, 1.0743; II, 0.39, 127-8(55), n₂₅D 1.4745, 3.0-3.5, 5-14,

26,

X, 51.5, --, 103-4(2), 1.4568, 1.077; III N-acetate, 0.22, 152.5-3(2), 1.4918, 2.3-3.5, XI (after 20-hr. boiling with 250 ml. 3N NaOH and extrn. with CHCl₃), 55.0, --, 120-2(1.5), 1.4750, 1.134; IV 0.09, 67.5-70(10), 1.4610, 1.5-3.0, 9-11, 8.9, XII, 28, --, 99-101.5(5), 1.4461, 0.9676; V, 0.3, 90-90.5(8), n₂₅D 1.4542, 2.5-3.7, 5-15, 23, XIII, 46.7, --, 1.4578, 1.105; VI, 0.5, --, --, 3.9-30, --, 22.7, XIV, 78, 92.158, 160(760), n₂₅D 1.4326, --; VII, 0.5, --, --, 2.8-3.5, 6-12, 22, 5, XV, 71.4, 85.1, 158-60 (760), 1.4289, --; VIII, 0.3, --, 2.9-3.0, 8-13, 21, XVI, 83.3, 81.5, 116-20(12), --, 1.4458. IX-XI were **hydrogenated** in MeOH over 1.5 g. Raney Ni and the following were obtained (starting material, amt. in moles, reaction temp. in .degree.C., pressure in atm., product obtained, yield in %, b.p. in .degree.C. (mm.), n₂₀D, d₂₀ given): IX, 0.08, 30, 100-20, XVII, 84.4, 142-3(6), 1.4420, 1.0472; X, 0.098, 40, 60-100, XVIII, 67.5, 124.5-6.5(4), 1.4432, 1.040; XI, 0.1, 20, 50-75,

XIX,

86.6, 124.5-5(1.5), 1.4630, 1.115.

IT Alkoxylation

(electrolytic, of furans)

IT 110-00-9, **Furan**

(alkoxylation of, **electrolytic**)

IT 332-77-4, Furan, 2,5-dihydro-2,5-dimethoxy- 22414-24-0, Furan,
2,5-dihydro-2,5-dimethoxy-2-methyl- 41991-02-0, Furfuryl alcohol,
2,5-dihydro-2,5-dimethoxy-, acetate 86799-54-4, 2-Butanone,
4-(2,5-dihydro-2,5-dimethoxy-2-furyl)- 90727-31-4, Ethanol,
2-[(tetrahydro-2,5-dimethoxyfurfuryl)amino]- 90950-87-1, Ethanol,
2-[(2,5-dihydro-2,5-dimethoxyfurfuryl)amino]- 91007-44-2, 2-Butanone,
1-(tetrahydro-2,5-dimethoxy-2-furyl)- 91966-97-1, 2-Furanpropanol,
2,5-dihydro-2,5-dimethoxy-, acetate 92038-02-3, Furan,
2,5-dihydro-2,5-dimethoxy-2-(3-methylpentyl)- 92038-77-2,
2-Furanpropanol, tetrahydro-2,5-dimethoxy-.alpha.-methyl-, acetate

93044-00-9, 2-Furanpropanol, 2,5-dihydro-2,5-dimethoxy-.alpha.-methyl-,
acetate
(prepn. of)

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=> d all 180

L2 ANSWER 180 OF 186 CAPLUS COPYRIGHT 2003 ACS

AN 1953:44557 CAPLUS

DN 47:44557

OREF 47:7482d-f

TI Preparation of cis- and trans-2,5-dimethoxy-2-(acetamidomethyl)-2,5-dihydrofuran, of cis- and trans-2,5-dimethoxy-2-(acetamidomethyl)-tetrahydrofuran, and of 1-phenyl-2-(acetamidomethyl)pyrrole

AU Clauson-Kaas, Niels; Tyle, Zdenek

CS Sadolin & Holmblad, Copenhagen, Den.

SO Acta Chemica Scandinavica (1952), 6, 667-70

CODEN: ACHSE7; ISSN: 0904-213X

DT Journal

LA English

CC 10 (Organic Chemistry)

AB **Electrolytic** methoxylation of 2-(acetamidomethyl) **furan**

(I) gave a mixt. of cis- and trans-2,5-dimethoxy-2-(acetamidomethyl)-2,5-dihydrofuran (II); **hydrogenation** of II gave a mixt. of the cis- and trans-tetrahydrofuran analogs (III) of II, which gave 1-phenyl-2-(acetamidomethyl)pyrrole (IV) with PhNH₂ in HOAc. Ac2O (75 g.)

in 75 cc. dry Et₂O was added at -20.degree. to 60 g. furfurylamine in 100 cc. Et₂O, and the mixt. distd. to give 82 g. colorless I, b₉ 146-8.degree., n_D²⁵ 1.4998. I (41.7 g.) with 5.0 g. NH₄Br in 260 cc.

MeOH

was electrolyzed 6 hrs. at -12.degree., 4.5-5.2 v., and 3.3-2.0 amp., the mixt. poured into a soln. of 1.20 g. Na in 20 cc. MeOH, the MeOH and NH₃ evapd. in vacuo, and 57.8 g. II distd., b_{0.6} 119-34.degree., m. 104-5.degree. (from Et₂O). Cryst. II (20.0 g.) in 80 cc. MeOH **hydrogenated** 4 hrs. at room temp. and 100 atm. over 5 g. Raney Ni gave 19.6 g. cryst. III, b_{0.1} 117-24.degree., m. 58-60.degree. (from Et₂O). Cryst. III (2.03 g.), 0.93 g. PhNH₂, and 3 cc. glacial HOAc refluxed 30 min. and the soln. distd. yielded 1.88 g. IV, b_{0.4} 166-71.degree., m. 88-91.degree. (from Et₂O). Similarly, 2.03 g. liquid III gave 2.08 g. IV, b_{0.1} 159-66.degree., m. 88-90.degree., alone and mixed with IV from cryst. III.

IT Methoxylation

(**electrolytic**, of **furan** derivs.)

IT Acetamide, N-(2,5-dihydro-2,5-dimethoxyfurfuryl)-, trans-

Acetamide, N-(tetrahydro-2,5-dimethoxyfurfuryl)-, trans-

Acetamide, N[(1-phenyl-2-pyrrolyl)methyl]-

Pyrrole, 2-(acetamidomethyl)-1-phenyl-

IT 110-00-9, Furan

(derivs., methoxylation of)

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=> d.all 181

L2 ANSWER 181 OF 186 CAPLUS COPYRIGHT 2003 ACS

AN 1953:44551 CAPLUS

DN 47:44551

OREF 47:7480g-i

TI **Electrolytic** ethoxylation of **furan**

AU Clauson-Kaas, Niels

CS Sadolin & Holmblad, Copenhagen, Den.

SO Acta Chemica Scandinavica (1952), 6, 569-71

CODEN: ACHSE7; ISSN: 0904-213X

DT Journal

LA English

CC 10 (Organic Chemistry)

AB 2,5-Diethoxy-2,5-dihydrofuran, b. 184-6.degree., nD25 1.4303-6, was
prepd.

in 63% yield by **electrolytic** ethoxylation of **furan** by
the procedure described above for methoxylation. Fractionation of the
electrolysis products gave crude malealdehyde tetra-Et acetal (I), b11
112-18.degree., nD25 1.4243, d23 0.932, which was **hydrogenated**
in MeOH over PtO2; 84 mg. I with 0.25 cc. PhNHNH2 and 12 cc. 32% aq. HOAc
gave 47 mg. malealdehyde bis(phenylhydrazone), m. 169-70.degree..

IT Ethoxylation
(of furan)

IT 2-Butene, 1,1,4,4-tetraethoxy-

IT 3675-13-6, Malealdehyde
(derivs.)

IT 107-92-6, Butyric acid 133200-67-6, 2,5-Furandiol, tetrahydro-
189274-71-3, 2,5-Furandiol, 2,5-dihydro-
(esters)

IT 110-00-9, **Furan**
(ethoxylation (**electrolytic**) of)

IT 20295-21-0, Furan, 2,5-diethoxy-2,5-dihydro-
(prepn. of)

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=> d all 182

L2 ANSWER 182 QF 186 CAPLUS COPYRIGHT 2003 ACS

AN 1953:44550 CAPLUS

DN 47:44550

OREF 47:7480d-g

TI Electrolytic methoxylation of some .beta.-isopropylfurans

AU Elming, Niels

CS Sadolin & Holmblad, Copenhagen, Den.

SO Acta Chemica Scandinavica (1952), 6, 572-7

CODEN: ACHSE7; ISSN: 0904-213X

DT Journal

LA English

CC 10 (Organic Chemistry)

AB 2,5-Dimethoxy-3-isopropyl-2,5-dihydrofuran (I), 2,5

dimethoxy-4-isopropyl-

2,5-dihydro-2-furaldehyde di-Me acetal (probable) (II), and Me

2,5-dimethoxy-4-isopropyl-2,5-dihydro-2-furoate (III) were prep'd. from

3-isopropylfuran, 4-isopropyl-2-furaldehyde di-Me acetal, and Me

4-isopropyl-2-furoate, resp., by electrolytic methoxylation. I, 72%

yield, b15 83-6.degree., nD25 1.4385-8, gave 65% crude

isopropylmalealdehyde dinitrophenylhydrazone, m. 178-80.degree. (from

abs.

EtOH), on boiling with 0.1N H2SO4 and adding (O2N)2C6H3NHNH2. I (12.0

g.)

was stirred 20 min. at room temp. with 168 cc. 0.1N H2SO4, 100 cc. MeOH added, the soln. cooled to 0.degree., 10.5 g. 50% N2H4.H2O in 28 cc. H2O added, the mixt. let stand overnight, refluxed 30 min., cooled, 27 cc.

4.8N H2SO4 added, the MeOH evap'd., 5.2 g. NaOH in 10 cc. H2O added, the mixt. ext'd. with Et2O, and the Et2O ext. dist'd. to yield 3.62 g.

4-isopropylpyridazine (IV), b15 122-50.degree., nD25 1.5011; picrate, m. 95-7.degree. (from EtOH). IV prep'd. from the picrate b14 121.degree.,

nD25 1.5015-25; methiodide, m. 156-80.degree. (from abs. EtOH-Et2O). II, 75% yield, b0.1 64-5.5.degree., nD25 1.4440, **hydrogenated** in

anhyd. MeOH 21 hrs. at 105-20 atm. and 120-30.degree. over Raney Ni

yielded 56% dimethoxy-4-isopropyltetrahydro-2-furaldehyde di-Me acetal,

b0.1 58-60.degree., nD25 1.4349. III, 61% yield, b0.1 69-71.degree.,

nD25

1.4520, similarly **hydrogenated** yielded 72% Me

2,5-dimethoxyisopropyltetrahydrofuroate (V), b0.1 68-70.degree., nD25

1.4401; treatment of 232 mg. V in 4 cc. anhyd. MeOH with 500 mg.

(O2N)2C6H3NHNH2 in 7 cc. MeOH and 1 cc. conc'd. H2SO4 gave 360 mg.

bis(dinitrophenylhydrazone), m. 179-81.degree. (from Me2CO-petr. ether).

IT

Methoxylation

(**electrolytic**, of furan derivs.)

IT

2-Furaldehyde, 2,5-dihydro-4-isopropyl-2,5-dimethoxy-, dimethyl acetal

2-Furaldehyde, tetrahydro-4-isopropyl-2,5-dimethoxy-, dimethyl acetal

2-Furoic acid, 2,5-dihydro-4-isopropyl-2,5-dimethoxy-, methyl ester

2-Furoic acid, tetrahydro-4-isopropyl-2,5-dimethoxy-, methyl ester

Furan, 2,5-dihydro-3-isopropyl-2,5-dimethoxy-

Furan, 2-(dimethoxymethyl)-2,5-dihydro-4-isopropyl-2,5-dimethoxy-

Furan, 2-(dimethoxymethyl)tetrahydro-4-isopropyl-2,5-dimethoxy-

Glutaraldehydic acid, 4-isopropyl-2-oxo-, methyl ester

bis(2,4-dinitrophenylhydrazone)-

Hexanoic acid, 4-formyl-5-methyl-2-oxo-, methyl ester,

bis(2,4-dinitrophenylhydrazone)

Malealdehyde, isopropyl-, 2,4-dinitrophenylhydrazone

Pyridazine, 4-isopropyl-

Pyridazine, 4-isopropyl-, picrate

Pyridazinium compounds, 4(or 5)-isopropyl-1-methyl-, iodide
IT 2-Furaldehyde, 4-isopropyl-, dimethyl acetal
2-Furoic acid, 4-isopropyl-, methyl ester
 Furan, 2-(dimethoxymethyl)-4-isopropyl-
 (electrolytic methoxylation of)
IT 110-00-9, Furan
 (derivs., methoxylation of)
IT 15012-74-5, **Furan**, 3-isopropyl-
 (**electrolytic** methoxylation of)
IT 13679-46-4, Furan, 2-(methoxymethyl)-
 (methoxylation of)
IT 109393-67-1, Levulinaldehyde, 5-methoxy-, bis(2,4-dinitrophenylhydrazone)
 (prepn. of)

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=> d all 185

L2 ANSWER 185 OF 186 CAPLUS COPYRIGHT 2003 ACS

AN 1953:44545 CAPLUS

DN 47:44545

OREF 47:7479f-h

TI **Electrolytic** methoxylation of **furan**

AU Clauson-Kaas, Niels; Limborg, Franz; Glens, Kirsten

CS Sadolin and Holmblad, Copenhagen

SO Acta Chemica Scandinavica (1952), 6, 531-4

CODEN: ACHSE7; ISSN: 0904-213X

DT Journal

LA English

CC 10 (Organic Chemistry)

AB Furan (I) in a MeOH soln. of NH₄Br (II) was electrolyzed to give 2,5-dimethoxy-2,5-dihydrofuran (III). II (5.0 g.), 230 cc. MeOH, and

68.0

g. freshly distd. I at -14.degree. were electrolyzed 15.9 hrs. with a current of 3.0-2.3 amp., and a potential across the cell of 4.6-5.3 v., the mixt. was poured into 20 cc. MeOH contg. 1.20 g. Na, 160 cc. excess

I,

and NH₃, distd., the ppt. of NaBr sepd., and the filtrate distd. to yield 95.5 g. III, b. 160-2.degree., n_D²⁵ 1.4321-6. A higher-boiling fraction (2 g.), considered to be mainly malealdehyde tetra-Me acetal (IV), b. 200-1.degree., n_D²⁵ 1.4247, was **hydrogenated** over PtO₂ catalyst; 65 mg. IV was let stand 1 hr. at room temp. with 0.25 cc. PhNHNH₂ and 12 cc. 32% aq. HOAc, and the ppt. sepd., washed with dil. HOAc and H₂O, and dried to yield 65 mg. malealdehyde bis-(phenylhydrazone), m. 171.degree.. II was considered to be a mixt. of the cis and trans isomers.

IT Methoxylation

Methoxylation

(**electrolytic**, of **furan**)

IT **Furan**, lithium deriv.

(methoxylation (**electrolytic**) of)

IT 3675-13-6, Malealdehyde

(derivs.)

IT 332-77-4, Furan, 2,5-dihydro-2,5-dimethoxy- 5370-08-1, 2-Butene,
1,1,4,4-tetramethoxy-
(prepn. of)

=>

U.S. PCT Application Serial No. 10/088,075
Docket No:

STATEMENT OF RELEVANCY

1) References _____ have been cited in the International Search Report. Copies of these references are being submitted herewith only when not automatically provided by the International Searching Authority.

2) References _____ have been cited in the corresponding _____ Search Report. A copy of these references is being submitted herewith.

3) References AO and AW-AZ are discussed in the specification. A copy of these references is being submitted herewith.

4) References _____ are additional prior art known to Applicant. A copy of these references is being submitted herewith.